ABSTRACT OF THE DISCLOSURE

A sample cell, which is a component of a gas monitoring system, includes a sample cell body and a sample cell core installed therewith. The sample cell is coupled to a sampling tube that communicates with an airway of a patient. Gas from the sampling tube passes through the sample cell such that the flow profile remains substantially undisturbed. Within the sample cell, at least one optical aperture permits radiation to be emitted, pass through the gas in the sample cell core, and detected. In this manner, measurements of the partial pressure or concentration of a gas of interest are determined.